

Universe

J e t P r o p u l s i o n L a b o r a t o r y

I n s i d e

May 23, 2003
Volume 33 Number 11

News Briefs	2	One NASA	3
Special Events Calendar	2	Passings, Letters	4
Send Your Name to a Comet	3	Retirees, Classifieds	4

Our best to the public

An estimated 24,000 people attended JPL's Open House May 17-18. Lab Director Dr. Charles Elachi thanked the dozens of volunteers who helped make the Open House such a great success. Security Manager Joe Charles called the event the "safest, most enjoyable Open House we could deliver as a Laboratory team," and commended those who helped to make Security's job easier.

Visitors check out a robot built by high school students.



Photos: Dutch Slager / JPL Photolab



Richard Webster of Section 352 describes the spacecraft and airbags from the Mars Exploration Rovers mission.



Philip West, deputy chief of education at Johnson Space Center, shows off an astronaut suit.



Section 312's Charles Acton Jr. shows the aerogel display to visitors.

Air Force lieutenants learn the JPL way

By Susan Braunheim-Kalogerakos

FIVE AIR FORCE LIEUTENANTS from the Space and Missile Systems Center (SMC) at Los Angeles Air Force Base in El Segundo are working on Lab as part of an Air Force/Industry Employee Exchange Program.

The aim of the program is to facilitate the exchange of information and institutional wisdom between the Air Force and NASA and JPL. The program will provide benefits to both institutions including the rejuvenation of systems engineering skills, which have

by Lynn Baroff of the Mission and Systems Architecture Section.

Cox said the program will allow Air Force personnel to "work hand in hand with JPL scientists and engineers and take that experience and knowledge back to the Air Force space program and enrich it by making more meaningful contributions."

Deputy Lab Director Eugene Tattini is an enthusiastic supporter. "Bringing these individuals on Lab gives them an opportunity to understand the engineering and

high quality and dedication of these Air Force men and women. We are all going to be better off because of these kinds of programs," Tattini said.

When the call for applications went out last November, Lt. Mark Scherbarth said he "jumped at the chance." During his six months in the program, Scherbarth is completing his master's degree as well as sharpening his engineering skills working with rigidizable inflatable structures in the Structure and Materials Technology Group.

Lt. Heidi Budd is working on the Cassini Project in the attitude articulation and control subsystem area. She is amazed at how much goes into making a project happen. "I hope to leave JPL with a greater appreciation and understanding of all that goes into a project like Cassini and take the lesson back to SMC," she said.

Lt. Tony Marquez has found his work with the Integration and Test Section for the Mars Exploration Rovers to be very valuable not only technically but organizationally and personally as well. "There are many business practices at JPL that can tremendously help both the Air Force as a business organization and myself as an employee," he said.

The most interesting aspect of working at JPL for Lt. Jason Janik,

who is working in the Mars Exploration Engineering Group, has been working directly on the design of a project and applying engineering concepts to it. This is something he doesn't often get to do at the SMC.

"I hope to be able to incorporate some of the things I learn here to enhance my job skills back in the Air Force," Janik said.

The lieutenants enjoy the relaxed atmosphere JPL provides, but it has taken some getting used to. Lt. Amanda Jones, who works in the Near Earth Mission Architecture Group, finds JPL's people and the on-Lab environment interesting. "JPL is a very different environment from the Air Force in many ways. The atmosphere is much more relaxed and seems less structured. The people have been fantastic, very friendly, and always willing to help when they can."

Although the effort is considered an exchange program, no JPLers are currently working at SMC. "As the program matures, and professional development issues are resolved with NASA, JPL employees will be eligible to do a similar career broadening tour at SMC," Cox said.

This set of lieutenants is scheduled to leave in mid-September when another group of young Air Force officers will arrive at JPL to begin a new six-month exchange rotation.



Bob Brown / JPL Photolab

JPL Deputy Director Eugene Tattini chats with (from left) lieutenants Tony Marquez, Heidi Budd, Amanda Jones and Jason Janik.

been in need of improvement in the Air Force in years past, as well as improving JPL's skills in program/project management.

Robert Cox, assistant director for the National Space Technology Applications Office in the Earth Science and Technology Directorate, directs the program for JPL. The program was developed

technology capabilities of JPL. It also gives them insight into the civil side of space as well as an opportunity to do hands on engineering work which they may not get to practice in the military."

Prior to joining JPL in 2001, Tattini served as SMC commander.

"The program gives the JPL work force some appreciation for the

News Briefs



Gaylord Hammerwold

Hammerwold gets La Cañada honor
JPL computer programmer GAYLORD HAMMERWOLD has been named La Cañadan of the Year by the Kiwanis Club of La Cañada.

Hammerwold, who works on ground data systems for Section 3193, received the honor for his volunteer and leadership efforts in the La Cañada Flintridge community. Among his efforts cited by Kiwanis are those with the La Cañada Flintridge Chamber of Commerce, American Cancer Society Foothill Relay for Life, Foothill Summer Theatre and Roger Barkley Community Foundation.

Hammerwold was also acknowledged for his many volunteer efforts on behalf of JPL, including Science Bowl, Oceans Science Bowl, FIRST robotics and Open House.

Travel team wins improvement award

The JPL Travel Services Team won a NASA Continual Improvement team award at the agency's recent Continual Improvement and Reinvention Conference in Alexandria, Va.

KEN GREEN, manager of JPL travel accounting, accepted the award on behalf of the team. His presentation at the conference illustrated how process improvements made during the 2002 fiscal year helped eliminate barriers and streamline Travel Services, resulting in increased customer satisfaction and substantial cost savings.

The award recognizes NASA and contractor teams that by improving their work processes have made significant, positive impacts on their centers and the agency. A board of NASA quality management associates had selected five teams last year from nominations submitted by NASA Headquarters offices and each center.

Discovered star may be third closest

The local celestial neighborhood just got more crowded with a discovery of a star that may be the third closest to the Sun. The star, "SO25300.5+165258," is a faint red dwarf star estimated to be about 7.8 light-years from Earth in the direction of the constellation Aries.

"Our new stellar neighbor is a pleasant surprise, since we weren't looking for it," said DR. BONNARD TEEGARDEN, an astrophysicist at NASA's Goddard Space Flight Center, Greenbelt, Md. Teegarden is lead author of a paper announcing the discovery to be published by the Astrophysical Journal. This work has been done in close collaboration with JPL's DR. STEVEN PRAVDO.

If its estimate of distance is confirmed, the newfound star will be the Sun's third-closest stellar neighbor, slightly farther than the Alpha Centauri system, actually a group of three stars a bit more than four light-years away, and Barnard's star, about six light-years away. One light-year is almost 6 trillion miles, or nearly 9.5 trillion kilometers.

The new star has only about 7 percent of the mass of the Sun, and it is 300,000 times fainter. The star's feeble glow is the reason why it has not been seen until now, despite being relatively close.

University subcontracting help offered

In an effort to strive for greater collaboration between JPL and the university community, the Acquisition Division has created the Universities Subcontract Section (269). The new section consists of two new groups, in which negotiators are assigned to specific universities within geographical areas: Eastern State Universities and Western State Universities. Having a single point of contact with a given university introduces efficiency and effectiveness in communications between JPL and the universities.

The section handles subcontracting of JPL work with universities on research, investigations, data analysis and concept development.

To assist JPL technical customers, the section has established a Web page directory. For points of contact and other information related to

university subcontracting, visit <http://acquisition.jpl.nasa.gov/crei> or call any member of the section's leadership team: RICHARD PARKER, manager, ext. 4-2330; FRAN FISHER, Western States group supervisor, ext. 3-7266; DELLA BORLUND, Eastern States group supervisor, ext. 3-5251 or LAURA WHITE, section secretary, ext. 3-5441.

Savings Bonds drive June 3-6

A representative from National Bond and Trust Company will be on Lab June 3-6 from 9 a.m. to 3 p.m. to provide information to JPL employees interested in signing up for U.S. Savings Bonds through payroll deduction. Locations are as follows:

- Tuesday, June 3, 167 cafeteria tent
- Wednesday, June 4, 190 cafeteria
- Thursday, June 5, 303 cafeteria
- Friday, June 6, 601 lobby

The current interest rate on "I" bonds is 4.66%, with 2.66% offered on "EE" bonds. Interest is adjusted May 1 and Nov. 1.

There is no state tax on bonds' interest; federal tax on interest is deferred; and interest is generally tax-free if used for college tuition.

For more information, contact the JPL Savings Bonds representative via e-mail at bkritlow@Pacbell.net, by phone at (714) 775-4525 or by fax at (714) 775-1370. For any changes to existing deductions, call (800) 321-8024.

Wine tasting benefit June 21

The JPL/Caltech Child Educational Center will hold its annual wine tasting benefit on Saturday, June 21.

The event, held from 6:30 to 11 p.m. at Caltech's Avery House, 293 S. Holliston Ave. in Pasadena, will include fine wines, great food and live jazz music from the Chad Edwards Quartet. In addition, guests may bid on unique auction items and take their chances at the gaming tables. All proceeds from the evening will directly benefit the non-profit organization, which has been providing high-quality child care and educational outreach services since 1979.

General admission tickets are \$35; Connoisseur tickets, which include entry into a private tasting room with premium wines, are \$65.

Tickets are available at the JPL Store and at the Child Educational Center, 140 Foothill Blvd. in La Cañada. Tickets may also be purchased at the door the evening of the event for an additional \$10. For more information, call ext. 4-3418.

Credit union offers scholarship

The Caltech Employees Federal Credit Union is offering \$500 scholarship prizes to graduating high school students.

To be eligible, applicants must be a high school senior in good standing and a Caltech Credit Union member, and must complete a Personal Statement Essay.

For application information, log on to <http://www.cefcu.org>, call (800) 592-3328 or stop by any Caltech Credit Union office. Application deadline is May 31.

Tennis, anyone?

Caltech Athenaeum members and their families are invited to join the Athenaeum's managed singles and doubles tennis ladders. Monthly matches are formed between players of comparable level.

The Athenaeum Tennis Ladder is a forum designed to facilitate tennis play among similarly skilled players. All levels of play are welcome. Each month, ladder managers schedule matches between players of similar ladder rank. Depending on the outcome, rankings are updated, with better play resulting in upward movement on the ladder.

The program, which supports both singles and doubles tennis play, is open to all Athenaeum members and their immediate families. One doubles team member must belong to the Athenaeum.

For more information, contact Rich Dekany at rgd@astro.caltech.edu.

Special Events Calendar

Ongoing Support Groups

Alcoholics Anonymous—Meetings are available. Call the Employee Assistance Program at ext. 4-3680 for time and location.

Caregivers Support Group—Meets the first Thursday of the month at noon in Building 167-111 (The Wellness Place). For more information, call the Employee Assistance Program at ext. 4-3680.

Codependents Anonymous—Meeting at noon every Wednesday. Call Occupational Health Services at ext. 4-3319.

Gay, Lesbian and Bisexual Group—Meets the first Friday and third Thursday of the month at noon in Building 111-117. Call the Employee Assistance Program at ext. 4-3680 or Randy Herrera at ext. 3-0664.

Parents Group for Children With Special Needs—Meets the second Thursday of the month at noon in the Wellness Place, Building 167-111.

Working Parents Support Group—Meets the third Thursday of the month at noon in Building 167-111. For more information, call the Employee Assistance Program at ext. 4-3680.

Friday, May 23; Sunday, May 25

At the Keyboard—James Boyk celebrates his 30th anniversary as Caltech pianist-in-residence with an 8 p.m. show Friday and a 2:30 p.m. show Sunday, both in Dabney Lounge. For more information, call (626) 395-4652.

Tuesday, May 27

The Netherlands—A slide show will be presented at noon in Building 238-543 by Pieter Kok of the Quantum Computing Technologies Group. Learn more about the land famous for wooden shoes, tulips and windmills. Go beyond the traditional images with a Dutch native and see Holland's famous art, surprising architecture, and canals defining the famous flatlands. The talk is sponsored by the JPL Hiking+ Club.

Wednesday, May 28

"Chimpanzees, Bonobos and the Problem of Human Violence"—Biological anthropologist Richard Wrangham will lecture at 8 p.m. in Caltech's Beckman Auditorium. Free admission. For more information, call (626) 395-4652.

JPL Toastmasters Club—Meeting at 5 p.m. in the 167 conference room. Call Roger Carlson at ext. 4-2295 for information.

Volunteer Professionals for Medical Advancement—Meeting at 10:30 a.m. at the Caltech Credit Union, 528 Foothill Blvd., La Cañada.

Thursday, May 29

JPL Golf Club—Meeting at noon in Building 306-302.

JPL Stories—Retired JPL public information officer Jurrie van der Woude presents "Could I Have Been This Lucky?" at 4 p.m. in the Library, Building 111-104. For information about the JPL Story series, call Teresa Bailey at ext. 4-9233.

Saturday, May 31

Folk Music—Singer/guitarist Priscilla Herdman will perform at 8 p.m. in Caltech's Winnett Student Center. Tickets are \$15 for adults and \$5 for Caltech students and children under

12. For more information, call (626) 395-4652 or check the Folk Music Society website at <http://www.folkmusic.caltech.edu>.

Sunday, June 1

CEC Celebration of Community—The Child Educational Center's annual party to honor teachers, parents, alumni and community members who have provided invaluable service to the center will be held from 3 to 6 p.m. at 140 Foothill Blvd. The event features children's entertainment and activities, dinner and an awards presentation. Two of the award recipients are from JPL: Eric Fuller will receive the center's Community Service Award for his work on behalf of emergency preparedness, and Don Sevilla will receive the Alumni Service Award for volunteering twice weekly with children since May 2001. For additional details, call ext. 4-3418.

Monday, June 2

Fitness Classes—The next six-week session of classes offered by Employee Services & Recognition begins. Classes are yoga (including advanced), tai chi, pilates and aerobic kickboxing. Visit <http://eis.jpl.nasa.gov/hr/esr/wellness/schedule.htm> for the schedule and registration information.

Tuesday, June 3

JPL Information Providers' Fair—The Library, Archives and Records Section hosts from 10 a.m. to 2 p.m. in Building 111-104. Enjoy refreshments, participate in a \$50 raffle, and meet information providers Labwide. For more information, visit http://beacon/WhatsNew/InfoFair_flyer.pdf or call Susan Hendrickson at ext. 4-2883 or Teresa Bailey at ext. 4-9233.

JPL Gamers Club—Meeting at noon in Building 301-227.

JPL Genealogy Club—Meeting at noon in Building 301-271.

Wednesday, June 4

Associated Retirees of JPL/Caltech—Meeting at 10 a.m. at the Caltech Credit Union, 528 Foothill Blvd., La Cañada.

Thursday, June 5

JPL Gun Club—Meeting at noon in Building 183-328.

Monday, June 9

Search & Rescue Orientation—JPL's Urban Search & Rescue Team seeks new volunteers and offers this session at noon in Building 180-101. See examples of the many advanced techniques the group employs to respond to major disasters, both on and off Lab. For more information, call Eric Fuller, ext. 4-1091.

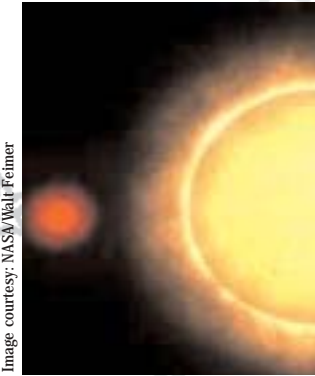


Monday-Thursday, June 16-19

American Heritage Week—The Lab's traditional spring event celebrating diversity. "International Cuisine Night" is scheduled for Thursday. For updates, log on to <http://dailyplanet>.

Ongoing

The Social Security representative will no longer offer one-on-one counseling appointments on Lab. Call the Benefits Office at ext. 4-3760 to arrange a telephone counseling appointment.



Size comparison of new star "SO25300.5+165258" and the Sun.

Image courtesy: NASA/Wall Feimer



Send your name for 'Deep Impact' with a comet

"When the craft is launched in December 2004, your name — and those of your loved-ones — can hitch along for the ride and be part of what may be the best space fireworks show in history."

*Dr. Don Yeomans,
member of Deep Impact's
science team*

P

ople worldwide may celebrate July 4, 2005, as the day their names reach a comet. NASA is launching a campaign to send hundreds of thousands of names to comet Tempel 1.

The names will be carried on board JPL's Deep Impact spacecraft, the first deep-space mission designed to really reach out and touch a comet. Mission scientists are confident an impact on a comet's nucleus will answer basic questions about the nature and composition of these celestial wanderers.

"This is an opportunity to become part of an extraordinary space mission," said JPL astronomer Dr. Don Yeomans, a member of Deep Impact's science team. "When the craft is launched in December 2004, your name — and the names of your loved-ones — can hitch along for the ride and be part of what may be the best space fireworks show in history."

Deep Impact's larger flyby spacecraft will carry a smaller impactor spacecraft to Tempel 1 for release into the comet's path for a planned collision. The flyby spacecraft will take pictures as the 370-kilogram (816 pound) copper-tipped impactor plunges into Tempel 1 at about 37,000 kilometers (22,990 miles) per hour. The impactor is expected to make a spectacular, football field-sized crater, seven to 15 stories deep, in the speeding comet. Carried aboard the impactor will be a standard mini-CD containing the names of comet, space and other enthusiasts from around the world.

By D.C. Agle

"This campaign will allow people from around the world to become directly involved with Deep Impact and through that get them thinking about the scientific reasons for the mission," said University of Maryland astronomy professor Dr. Michael A'Hearn, Deep Impact's principal investigator. "We particularly hope to capture the interest of young students, as they will become the explorers of the next generation."

People may submit their names for this historic one-way mission by visiting NASA's Deep Impact website, now through February 2004, at <http://deepimpact.jpl.nasa.gov>.

The collision between the impactor and Tempel 1 is not forceful enough to make an appreciable change in the comet's orbital path around the Sun. The comet poses no threat to Earth.

Deep Impact was selected in 1999 as a NASA Discovery mission. The goal of the Discovery Program is to launch many smaller missions with fast development times, each for a fraction of the cost of NASA's larger missions. The main objective is to enhance our understanding of the solar system by exploring the planets, their moons, and small bodies, such as comets and asteroids.

JPL's John McNamee is the Deep Impact project manager. The Lab manages and operates the mission for NASA's Office of Space Science. Ball Aerospace & Technologies Corp. in Boulder, Colo., manages spacecraft development.

For more information about the Deep Impact mission, visit <http://deepimpact.jpl.nasa.gov>.

KSC engineer supports One NASA principles

This article is the fourth in a series that describes how NASA centers are realizing the One NASA goal.



Well before NASA Administrator Sean O'Keefe focused NASA on the concept, Cheryl Malloy, Kennedy Space Center mission integration manager for the Launch Services Program (formerly the Expendable Launch Vehicles Program) was actually putting the One NASA principles into practice. Malloy, a 15-year NASA veteran, has had several first-hand experiences in working with other NASA centers on projects at KSC.

"I've been lucky in that all of the Launch Services Program missions we work on require integration with other centers," Malloy said. For example, as mission integration manager on the Kodiak Star mission in 2001, she coordinated launch site activation, mission integration and launch activities with the Wallops Flight Facility, the U.S Air Force and Coast Guard and Lockheed Martin, bringing together one Kodiak launch team to ensure a smooth mission flow and successful first launch in Alaska. The launch coordination was a prime example of NASA's Core Values and KSC's Guiding Principles. It

emphasized the importance of building reliance and teamwork everywhere, which has been a KSC Guiding Principle for more than five years and demonstrates One NASA, which is all about teamwork. Malloy started at KSC as a summer appointment in 1987 and then worked full-time in Shuttle Payloads, starting in 1990. Among others, she worked on Spacelab-Japan, Microgravity Life Sciences and Space Life Sciences payloads. She especially enjoyed working in this area because, in addition to her electrical engineering degree, she first earned a degree in lab technology. Working on these payloads utilized both degrees and provided her the opportunity to meet and work with many scientists and experimenters inside and outside of NASA.

It was during her time in Shuttle Upgrades, from 1996 to 1998, that Malloy's work required her to become involved in projects rather than missions with other NASA centers. She transferred to Expendable Launch Vehicles in 1998 and has remained there ever since. "I like the synergy that exists when you work with the NASA centers and others

outside of KSC," said Malloy. She so strongly believes in drawing on all resources to successfully complete a project that she took it one step further and participated in NASA's Industry Exchange Program, which temporarily places personnel from commercial business into NASA, and vice versa.

Malloy recently completed an industry exchange assignment with Science Applications International Inc. in Cape Canaveral while still maintaining some of her responsibilities with the Launch Services Program. "I wanted to benchmark their project management and compare the private sector with government," she said. Malloy will be able to bring back project management practices from the private sector in the same way she shared NASA's perspectives with them. She was not surprised to find that, since Science Applications International is a global company, they had practices in place similar to One NASA.

Returning from her industry exchange to KSC, Malloy is working on the Marshall Space Flight Center-managed X-37 Flight Demonstration Project, comprised of a team including Dryden Flight Research Center, Langley Research Center, Johnson Space Center, Ames Research Center and the Fairmont Independent Verification and Validation Facility. She and the KSC team will provide launch service and launch service integration. "This is a perfect example of the One NASA concept," Malloy said, "where we draw from other centers for their experience and expertise."

With any new concept there are always hurdles to overcome. "It's so much better to work under the 'agency hat' than just the 'KSC hat,'" Malloy noted. "One NASA is predominantly a culture change and it's the perfect opportunity for our leadership to set the stage for guidance and support."

Passings

JOHN SMALL, 83, a retired JPL engineer and manager, died May 9.

A Caltech graduate, Small joined JPL in 1951 and worked at the Lab for almost 30 years. He served as manager of the Missile Engineering Section within the Design Division, manager of the Special Projects Office in the Flight Projects Division and as section chief for Preliminary Design and Research. Services were private.



John Small

JESS FLOREZ, 84, retired from Section 645, died April 16. Florez worked at the Lab from 1980–84. He is survived by his wife, Carmen.

PATRICIA ARCHIBALD, who had worked in the Astronomy and Physics since 1997, died April 23. She had been on long-term disability.

She is survived by her husband, Ed Stine, daughters Linda and Laura, and six grandchildren.

Services were held at 1st Church of Nazarene in Pasadena.

LESTER LYLE PROVANCE, 81, retired from the Lab's reproduction services department, died May 8 of natural cause. He worked at JPL for 30 years.

Letters

My husband, Ian Gordon, and I would like to thank all of our friends at JPL for their thoughtfulness after the passing of Ian's mother, Sylvia Gordon. Sylvia had a real green thumb so we will always remember her when we look at the beautiful plant JPL sent us.

Mimi Paller, Ian Gordon and family

We would like to express our appreciation for the plant sent from the Laboratory after the passing of my husband's mother, Gladys Herrell. She is remembered fondly, and we appreciate the expressions of sympathy from co-workers.

Linda and Ken Herrell

Retirees

The following JPL employees retired in May:

Walter Mushagian, 42 years, Section 331; Robert Kinkade, 31 years, Section 266; Gilbert Yanow, 29 years, Section 186; Martha Hanner, 26 years, Section 322; James Rooney, 21 years, Section 823; Richard Benninger, 15 years, Section 333.

Classifieds

For Sale

ART, R.C. Gorman signed print, "Woman in Orange" circa '77; FILE CABINET, metal, rolling, w/shelf, & folders, \$10; AROMATHERAPY KIT, new in box, \$15; FRANCISCANWARE, Desert Apple pattern, misc. pieces. 626/398-4960.

BICYCLE, won in raffle, Diamond Back, 21-speed mtn. bike, approx. retail value \$450, never used, in sealed carton, needs to be assembled, \$165. 323/654-0387.

CHAIR, "Amen" replica, reclines, brown leather with footstool, \$50. 790-4455.

CHUCKER LATHE, type T-SPL1, Precision Tsugami Works, \$500. 353-1914.

COFFEE MAKER, Braun 10-cups, white/black, like new, \$30/obo. 626/791-6101.

COFFEE TABLE, lovely, black, solid wood, round Chinese with carved sides, 45" diam., \$260. 545-0455.

COUCH, beautiful white satin, 94" long, \$320; LOVE SEAT, matching, 70" long, \$230, both like new, \$550. 545-0455, Maria.

DAYBED, twin, metal frame with railing, white enamel, gold trim, \$50/obo. 970-8456, Steve.

DESK, large, 6 drawers, \$125. 957-6821.

DINING ROOM SET, table, leaf and 6 upholstered chairs, \$150. 626/447-6423.

DINING ROOM TABLE/CHAIRS, antique, beautiful solid oak, draw-leaf table with two pullout leaves, six solid oak arrow back chairs, excellent cond., \$625/obo. 353-6369.

DINING TABLE, smoked glass top, 72" x 42", with 6 upholstered fabric chairs, exc. cond., \$299. 909/592-2279.

DISH SATELLITE TV SYSTEM w/up to 2 free receivers, free installation + \$49.99 off first bill, only 2 certificates avail., expires 5/31. 897-1203, Valerie.

DODGER TICKETS, selected games from season ticket package, Loge level (orange), aisle 132 (inside first base), 2 tickets/game at face value of \$29/ticket, see www.delumac.net/tickets for details. 626/296-1253.

DOG HOUSE, Dogloo II igloo style, vent in roof, outside dimensions about 36" x 36", for med.-sz. dog, gd. cond., about 3 yrs/ old, \$40/obo. 909/596-4390.

DOG HOUSE, Dogloo XT for small dog, up to 45#, good cond., \$40. 626/303-1927.

DRYER, electric, Maytag, in good working order, \$30/obo. 249-5529, evenings.

ELECTRONICS: Cerwin Vega Center channel speaker, 100 W. exc. cond., \$35; Infinity Overtures composition matched surround speaker system, fantastic sound, exc. cond.; 2 front towers, built in 150W powered subwoofers, center channel, Quadropole surround pair, all for \$1099; Denon Dolby digital receiver, fan-tastic sound, exc. cond., 85 w/ch x 5, remote, \$199; Denon CD player, remote, exc. sound/ cond., \$69; Sony 27" TV, exc. cond, \$149. 909/592-2279.

GOLF CLUBS, complete men's Dunlop set w/bag, most clubs never been used, \$150. 661/313-4557.

GUITAR, Hohner steel string dreadnought, aba-lone trim, vg cond. and sound, newly installed ovation preamp for connection to PA. w/strap, case & pick, \$250. 626/840-0955, leave msg.

HARDWOOD FLOORING, 350 sq. feet, 3/8 thick t&g, pre-finished, dark walnut, \$150. 626/355-6077, after 5 p.m.

HIGH CHAIR, great cond., \$15. 626/448-8809.

JEWELRY: earrings, bracelets, rings, incl. vintage, turquoise & gemstones (lots of clip and pierced earrings), amethyst & diamond ring, set in 14K gold, sz. ~5-1/2, pearl ring, 8 mm, set in 14K gold, sz. ~6; CLOTHING, Jones of NY 2 pc./Jacket & Slacks, fully lined & slash pockets, new w/tags, sz. 12, dark olive, \$200+ retail, \$100/obo; 2 pc./jacket & slacks, Rena Rowan for Saville, white, lined, sz. 14, never worn; pockets still stitched, \$50/obo. 626/398-4960.

LAWN TRACTOR, Wheel Horse, with 42" mower deck & snowplow attachment, exc. cond., e-mail photo available, \$6,000 new, \$2,000/obo. 661/253-1183.

MOVING SALE: furn., Pottery Barn/ Plummers/custom, living room tables, chair \$75+; dining table, bakers rack, china cabinet, \$25-225; queen waterbed, \$325; Lane cedar chest, \$125; desks, bookcases \$60+; patio tables/ chairs \$25-300; black Royale Lenox china, Univega mtn. bike, \$25; Rossignol kids skis, \$25; more. bbon@earthlink.net or 952-2581.

NEIL YOUNG TICKETS, w/Crazy Horse, Greek Theatre, July 22, 2 exc. seats, sect. A, row U, \$150/ea. 310/804-1858 or cagey444@yahoo.com.

POWER AMP, Pioneer bridgeable, 4 channel, GM-X304, 30w x 4, 70w x 2, \$50/obo; Laguna high-current amp, with built-in switchable lowpass crossovers, 100w x 4, \$80/obo. 323/548-4554, pager.

PRINTER, HP Deskjet 3420, New in box, never opened. Was purchased as part of a package. Color ink-jet with photo quality up to 2400 color dpi. Up to 10 ppm bw and 8 ppm color. Great entry level printer. Retail for \$79.99, sell for \$50.00. 259-5526 Sandy.

RE-DECORATING SALE, square coffee table and end table, hard wood with beveled glass tops and brass trim. 39" x 39" 15" and 26" x 26" x 20", good quality, family treasure, \$700 for both/obo; chandelier, white porcelain and gold, for pictures suzan-neb@onebox.com. 626/577-6638, Suzanne.

SAW, 16-inch scroll, Sears, with extras, exc. cond., \$50. 626/358-6810.

SINK, lavatory pedestal, oval, white porcelain, 22" x 25" O.D. chrome faucets with white porcelain handles, almost never used, \$60/obo. 626/358-7390.

SKI EQUIPMENT: ski rack, used once, \$25; men's boots, used once, exc. cond., \$30. 626/449-6799, Bob.

TABLES, 2 custom designed rod iron, glass top indoor/outdoor tables, \$1,500; COMPUTER DESK, \$100; OFFICE CHAIR, \$35/obo. 248-1102.

TABLE LAMP, large, beautiful, with new 3-waybulb and nearly new shade, ivory color, \$15; CROCK POT, 1-gallon electric, like new, exc. cond., \$9. 626/793-1895, Albert.

TEA SET, pottery, made by Maine artisan, nautical theme, matching lighthouse design on all pieces, incl. tea pot, creamer, sugar, platter, small serving bowl, 2 mugs, 2 Japanese tea cups, never used, \$100/set. 249-4316.

TELEVISION, 26" Sylviaia console color, \$35. 626/359-7666.

TICKETS, 2, for 'A Prairie Home Companion with Garrison Keillor', Friday, June 6, 7:30 @Greek Theatre, vg seats: 14 & 16, Section A, Row V, top of the first section in front of stage, \$200/the pair. 653-6429, John.

TOY WOOD CONSTRUCTION SET, Brio Mech Set 4, 152 pieces + work board, vg cond., original cost ~\$150, sell for \$70; HOOVER STEAM VACUUM, good cond., \$50. 626/303-1927.

TREES: red banana plant 5' tall, \$60/obo; fish tail, 6' tall, \$80 obo. ficus, >10' tall, braided, in 30" plastic pot, \$250/obo; ceramic bowl, gray, 2' diameter with planted geraniums, \$40/obo. 626/791-6101.

WEDDING GOWN, white duchess satin sheath by Amsale, low back, gorgeous detachable train, fit ~sz. 2-4, elbow length white tulle veil, \$1,000 for set/obo;

FIGURINE, Lenox porcelain, bride & groom "wedding cake topper," 7", never used, orig. box, wonderful wedding gift, \$50. 249-4316.

Vehicles / Accessories

'99 BMW 323i sedan, steel blue w/gray int., auto, sunroof, lux. package: leather, pwr. seats, cruise control, premium sound, single CD player, alloy wheels, 67,000 mi., \$18,000. 626/576-7196.

'94 CADILLAC Eldorado touring coupe, dark cherry, 4.6L Northstar engine, loaded, power everything, Michelin tires, 53,000 mi., exc. cond., \$9,000. 626/355-6077, after 5 p.m.

'89 CADILLAC Fleetwood, exc. cond., well maintained, \$2,200/obo. 661/253-1183.

'68 CHEVROLET Corvette coupe, 4-speed manual, 427 CID, 390 HP motor, QJet carb., blue ext./blue int., T-top (2 sets), mag wheels, alarm, car cover, owned 24 years, rarely driven, retired senior, \$18,000/firm. 626/792-9053, Ray.

'00 FORD Mustang, silver ext., gray int., 30,000 mi., \$8,400. 323/582-2109 or 323/708-7659.

'94 FORD F-150, exc. cond, a/c, PS, PB, ABS, am/fm stereo, tow package, diamond pattern rail caps, running boards and bed-mounted tool box, CB radio, copper, 101K mi., \$5,500. 909/948-0049.

'94 FORD Econoline Coachman RV 250, 56K mi., gen. refrig, dc & propane, 2 a/c, sleeps 4, kitch, exc. cond., \$20,000. 892-7140.

'93 FORD Aerostar XL, 7 passenger, auto, a/c, PS, PW,PL, cassette, good cond., 103,000 miles, \$2,200. 626/683-8855.

'92 FORD Crown Victoria LX sedan, V8, 4.6L, AT, all power, a/c, dual exhaust, pwr. seats, AM/FM/cassette, cruise, tilt, ABS, lt. blue, dk. blue int., cloth seats, new brakes and water pump, \$3,500/obo. 248-8283.

'90 FORD Probe GT, 156,000 mi., 5 spd., turbo, ABS, pwr. drs. & win, cruise, trip comp, runs great, very clean, \$1,500/obo. 626/676-7678.

'97 HONDA Valkyrie motorcycle, exc. cond., extra chrome, garage kept, purple/white, studded seats, leather bags, many accessories, 23K miles, \$7,600. 957-2852.

'93 HONDA Del Sol, great cond., 80K mi., blue, manual 5-speed, 16-inch alloy wheels, Sony radio/CD, removable top with weather strip retrofit, \$5,000. 626/798-4032.

'93 INFINITI J30, blk/blk, Bose am/fm/cd stereo, auto air, 94K, good cond., removable ski rack, \$5,885. 790-6122.

'88 JEEP Cherokee Chief, red, 4-wheel drive, clean inside and out, approx. 30K on engine, transmission and transfer case, \$2,800. 626/359-7666.

'85 KOUNTRY Lite 5th wheel trailer, 30 ft., orig. owner, alum. frame, 13.5K btu a/c, side bath, microwave, new tires & water pump, sleeps 6, exc. cond., kitchen equip. included, \$5,500/obo. 626/963-5727.

'96 LAND ROVER Discover SD, power everything, V8, green/tan leather, new hose and belts, 93,000 mi., ready for family vacation or off-road fun, \$9,200/obo. 501-8161.

'97 MAZDA Miata MX-5, exc. cond., 37,000 mi., Montego Blue, new rear plastic window, new smog and registration, CD/cassette player, black fabric interior, 5-speed manual transmission, power windows, Clifford alarm system, added speakers in headrests, \$8,499/obo. 626/299-0845, Maura.

'02 MERCEDES BENZ C240 sedan, silver w/gray int., auto, pwr wnds, seat, sunroof, exc. cond., 21,000 mi., \$27,000. 626/576/7196.

'95 NISSAN Pathfinder XE, 4 x 4, clean, exc. running cond., Lojack, V6, tow pkg, a/c, P/S, PDL, tilt, cruise, CD, roof rack, tint, running boards, alloys, 135K mi., \$5,900. 909/596-9007.

'69 OLDSMOBILE Cutlass convertible, classic "muscle car," power steering/ windows, original Delco AM radio, new top, interior, too many items to mention, red w/black interior, see and drive. 952-1538 or tlynch41@aol.com.

'87 PORSCHE WHEELS/RIMS, four, 930, 9" rears, 7" fronts, superb cond., \$1,500 for all four. 714/390-5616.

'97 SATURN SW1 wagon, 83K mi., 5 spd, a/c, cruise control, pwr locks w/remote key fob, am/ fm/cass., roof rack, orig. owner, well maintained, \$3,800/obo. bbon@earthlink.net or 952-2581.

'01 TOYOTA Celica GT, 23,000 mi., like new, pwr. sunroof/mirrors/locks/windows, alarm, tinted windows, 17" rims, carbon blue, 5-spd, a/c, tape/cd deck, tilt, plus original tires, \$16,000/obo. 909/202-7934, Ronnie.

99 TOYOTA Avalon XLS, all automatic, leather, CD, sunroof, champagne with beige interior, 64K miles, \$15K. 818/249-4053.

'98 TOYOTA Tacoma PreRunner Xtra Cab, 4 cyl, auto, 77K mi., a/c, am/fm/cassette, dual front air bags, running boards, shell, bed liner, very good cond., \$10,500/obo. 626/296-9073.

'91 TOYOTA Tercel LE, 1 owner, very reliable, economical to drive, great for student or as a 2nd car, clean & well maint., white, 4 dr., 5-spd. stick, am/fm, only 91K miles, 2WHP768, must sell, reduced to \$1,500/obo. 323/222-0485, Joe.

'02 VW Passat, auto, moon roof, 5K mi., power doors/windows, heated mirrors, blue, \$14,000. 909/599-3230.

'73 VW Bug, classic orange, good cond., runs great, 28 to 35 mpg, CD/fm/am, \$2,800/obo. 626/791-3797.

Lost & Found

LOST: HP 48SX calculator, brown, lost in Bldg. 300 or 303 on week of April 14. 4-3273.

Wanted

HOT TUB, portable, in good condition, price negotiable. 248-6062, Elizabeth.

LAPTOP COMPUTER, used, decent condition, with working battery pack, A/C cord; PC or Mac OK. 626/792-0904.

LIFE VESTS, for 10 month old, and children 6 and 9 years old. 248-3912.

SPACE INFORMATION/memorabilia from U.S. & other countries, past & present, for personal use. 790-8523, Marc Rayman.

THREE-RING BINDERS, size 6 x 9 1/2 , with blue or gray cloth covers, will pay to \$7 each if in very good condition. 626/793-1895.

YIDDISH TRANSLATOR for handwritten old fam-ily letters; see at http://64.227.47.46/sample. 980-1638 or hkline2@msn.com, Henry.

Free

CAT, 2.5 yrs old, gray female, shorthaired, very affectionate & friendly, healthy, fixed, would like loving home. 626/403-0875, Nas.

CATS, 2, young, need adoption, rescued,

both are fixed, litter trained. 626/255-1330 or 760/633-3857.

GRASS, St. Augustine, very healthy organically grown sod, dig up what you need, just don't leave a mess. 626/794.9470, Nancy or bigcatlov@aol.com

For Rent

ALTADENA guest house, 1 bd., 1 ba., restored 1930s craftsman cottage, very clean, private fenced yd/garden w/flowers & fruit trees, wood deck, spectacular mtn. vw., new cent. a/c, heat, wainscoting in kitch., vintage Wedgwood stove, period wood cabinets, pantry, walk-closet, new tile in kitchen, window box over sink, approx. 2 mi./JPL, no pets, safe st. parking, water/refuse removal incl., security deposit \$1,800, 1-yr. lease, reduced to \$1,175. 376-5068.

ARCADIA apt., 2 bd. + den, 1 ba., garage, remodeled, refrig./washer/dryer in unit, a/c, dishwasher; spacious, walking dist. to shops, exc. neighborhood, water/gardener/trash included, \$1,350. 626/576-7333.

ATWATER, 2 bd., 1 ba., spacious, unfurn. upper in 6-unit building, no pets, \$900. 323/660-4223 or 1xh250@msn.com.

BURBANK, 3 bd., 1 ba., garage, priv. back-yard, walk to shopping, schools, excellent neighborhood, remodeled kitchen, hardwood floors, f/p, c/a, gardener paid, avail. June 1, \$2,150. 952-1538 or tlynch41@aol.com.

COVINA, house in Charter Oaks area, 3 bd. 1.5 ba, C/A, fireplace, w/d hookups, fenced yard, no pets, \$1,550. 323/228-1496.

LA CRESCENTA, large 2 bd., 1.5 ba. duplex, above Foothill, 1,050 sq. ft., quiet and well maintained, fireplace, 2 unit a/c, washer/dryer hookups, garage, yard, water and gardener included, \$1,400. 249-8511, Bill.

PASADENA, spacious 2 story condo, 3 bd., 2.5 ba., prestigious community, beautiful interior, bright kitch., prof. landscape, ctrl. air & heat, close to shop., cozy LR w/FP, end unit, frml DR, hdvtd. flrs., immac. cond., close to schls., \$1,750. 626/396-9024.

MONTROSE home, 2 bd., 1 ba., xtra room, 2-car garage, yard, hardwood floors, fireplace, laundry provided, quiet, 4 min to JPL, close to shopping areas, \$1,575. 248-5068.

MONTROSE triplex, 2 bd., office, 2 ba., new paint, new carpet, very private, non-smoker, no pets, must be clean person. 248-9110, Ron.

PASADENA, nice home in Upper Hastings Ranch, 3 bd., den, 2 ba., pool and spa, large yard, overlooks golf course, remodeled kitchen and ba., cent. air & heat, washer/dryer, refrigerator, 1-year lease required, includes gardener and pool service, available 6/28, furnished \$3,600, unfurnished \$3,200. 626/351-9641, leave msg.

SAN MARINO house, 3 bd., 2 ba, 2-car garage w/automatic opener, newly painted, remodeled kitchen, dishwasher, A/C, laundry hookups, fireplace, spacious family rm. overlooking yard, excellent neighborhood and school district, water/gardener included, \$2,850. 626/576-7333.

Real Estate

ALPINE FOREST, 3.2 acre view lot, 25 min. from Tehachapi, property sits among pine and oak trees at 6,300 ft., 4 seasons are part of the enjoyment, buildable for a vacation retreat or secluded home site, property ass'n is responsible for road maintenance and security, gated w/guard, closest neighbor is 3/4 mile, \$40,000. 249-6071.

Vacation Rentals

BALBOA ISLAND, cute beach apt., fully furn. 2 bd., 1 ba., patio, washer/dryer, parking, slps. 5, steps to bay, avail. weekly July & August, \$1,200-\$1,500/wk. depending on week. 626/351-9641.

BIG BEAR LAKEFRONT, luxury town home, 2 decks, tennis, pool/spa, beautiful master bd. suite, sleeps 6. 949/786-6548.

CAMBRIA, ocean front house, sleeps up to 4, excellent view. 248-1102.

ESCONDIDO time share, golfers' paradise, Lawrence Welk Villa, fixed week #23 with high RC/trading value, Wild Animal Park/Zoo/Sea World are close by, spacious 1,600 sq. ft., 2 bd., and 2 full ba., all amenities, cathedral vaulted ceiling and outside veranda overlooking a beautiful 18-hole golf course, \$17,000. 249-6071.

HAWAII, Kauai condo, 1 bd., full kitchen, on beach in Kapaa, \$575 for 8 days, 7 nights. 626/351-1532.

HAWAII, Maui condo, NW coast, ocean front view, 25 ft. fr. surf, 1 bd. w/loft, compl. furn. phone, color TV, VCR, microwave, d/w, pool, priv. lanai, slps 4, laundry fac., Low Season rate \$105/nite/2, High Season rate \$120/nite/2, \$15/nite/add'l person. 949/348-8047, or jackandrandy@cox.net.

MAMMOTH, Snowcreek, 2 bd., 2 ba., +loft, sleeps 6-8, fully equipped kitchen incl. microwave, D/W, cable TV, VCR, phone, balcony w/view to mtns., Jacuzzi, sauna, streams, fishponds, close to Mammoth Creek, JPL discount. 626/798-9222 or 626/794-0455 or valerie@gps.caltech.edu.

OCEANSIDE condo, fully furn., 2 bd., 2 ba., fireplace, full kitch., quiet, relaxing, beautiful beachside setting, BBQ/pool/spa/ game rm., great ocean view, easy walk to pier and restaurants, slps 8, avail. weekly or monthly. 909/981-7492, Darlene or dfhauge@yahoo.com.

OCEANSIDE, on the sand, charming 1 bd. condo, panoramic view, walk to pier & harbor, pool/spa, game rm., sleeps 4. 949/786-6548.

ROSARITO BEACH condo, 2 bd., 2 ba., ocean view, pool, tennis, short walk to beach on priv. rd., 18-hole golf course 6 mi. away, priv. secure parking. 626/794-3906.

SOLANA BEACH, 1 bd., timeshare condo, RCI resort of international distinction, avail. May 24-31, 7 days, sleeps 4, full kitchen, pool, spa, game room, 1 block from beach, near Del Mar and San Diego, perfect for the Memorial Day getaway, \$500/week. 909/263-9868, Allen or achowca@netscape.net.

TIMESHARE, 1 week, 1 br., fully furnished w/kitchen, book by June 30 & use by Dec. 30, 2003, U.S. (including Hawaii), Bermuda, Mexico locations, \$550; 1 week (1/2 br.) anywhere in the world based on availability, \$650. 897-1203.

Editor

Mark Whalen

Design + Layout

Adriane Jach, Audrey Steffan/
Design Services

Chief Photographer